

REMARKS

Status Summary

Claims 1-31 are pending in the present application. Claims 1 and 31 presently stand rejected, and claims 2-30 have been objected to.

Specification

The Examiner has stated that the arrangement of the specification is objected to because the specification does not contain headings as required. Specifically, the present specification requires the addition of headings for "BACKGROUND OF THE INVENTION", "SUMMARY", "BRIEF DESCRIPTION OF THE DRAWINGS", and "DETAILED DESCRIPTION". These changes to the specification have been made as indicated above.

Double Patenting

The Examiner has stated that claims 1 and 31 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 36 of U.S. Patent No. 7,292,662, hereinafter referred to as "the '662 patent". The Examiner contends that although the conflicting claims are not identical, they are not patentably distinct from each other because all the limitations in claim 1 of the present application are similar to claim 1 of the '662 patent except: "a phase interpolation unit which rotates the generated reference phase ... in response to a rotation control signal", which is considered principally similar to the limitation of the '662 patent of "a binary rotator which rotates ... in response to the fine track control signal". The Examiner

contends that these claim elements both do the same thing for rotating the phase according to a control signal. Likewise, the Examiner contends that claim 31 of the present application is similar to claim 36 of the '662 patent and is therefore an obvious variant thereof.

It is respectfully submitted, however, that the subject matter recited in the presently-pending claims is patentably distinct from the subject matter disclosed in the '662 patent. First, the object of the present claims is different from the object of the '662 patent. The '662 patent provides for recovering of a received high frequent serial data stream that is insensitive to phase jitter of a received serial data bit stream. By comparison, the present claims recite recovering of a received serial data stream that is insensitive to variations of the data density of the received serial data bit stream.

Further, as these different objects are pursued, different solutions are presented by the present claims as compared to the '662 patent. In this regard, the present claims recite phase adjustment means for adjustment of a sampling time, whereas the '662 patent claims feed forward phase tracking means for tracking of a sampling time. The phase adjustment means of the present claims are distinct from the feed forward phase tracking means claimed in the '662 patent. In particular, the present claims recite that equidistant reference phase signals are generated, whereas according to the '662 patent, equidistant sample phase signals being output with a predetermined granularity are generated. Further, the present claims also provide a phase interpolation unit that rotates the generated equidistant reference phase signals with a predetermined granularity in response to a rotation control signal (see feature (a2) of claim 1). The

'662 patent provides in claims 28 and 30 a phase interpolation unit that interpolates sample phase signals on the basis of the equidistant phase signals generated by a delay locked loop. Further still, feature (a6) of claim 1 recites a loop filter for filtering a detected average phase difference to generate a rotation control signal for the phase interpolation unit. In contrast, the '662 patent recites a loop filter for tracking of small phase offset of a detected average phase signal around an ideal sampling time at the center of the unit interval to generate a fine track control signal.

Accordingly, it is respectfully submitted that the subject matter of pending claim 1 is neither disclosed nor rendered obvious by the '662 patent. In addition, it is further submitted that distinctions substantially similar to those identified above can be made between the subject matter of claim 31 and that of claim 36 of the '662 patent. As a result, it is respectfully requested that the rejection of claims 1 and 31 for nonstatutory obviousness-type double patenting be withdrawn and all of the claims allowed at this time.

However, should the Examiner continue to maintain that the claims of the present application are not patentably distinct from the claims of the '662 patent, applicants hereby submit a Terminal Disclaimer in compliance with 37 CFR 1.321(c) in order to disclaim the terminal part of any patent granted in the instant application which would extend beyond the expiration date of U.S. Patent No. 7,292,662. Therefore, even if the Examiner is not persuaded by the arguments presented above, applicants respectfully submit that the rejection of claims 1 and 31 on the grounds of non-statutory obviousness-type double patenting should be withdrawn at this time.

CONCLUSION

In light of the above amendments and remarks, it is respectfully submitted that the present application is now in proper condition for allowance, and an early notice to such effect is earnestly solicited.

If any small matter should remain outstanding after the Patent Examiner has had an opportunity to review the above Remarks, the Patent Examiner is respectfully requested to telephone the undersigned patent attorney in order to resolve these matters and avoid the issuance of another Official Action.

DEPOSIT ACCOUNT

The Commissioner is hereby authorized to charge any fees associated with the filing of this correspondence to Deposit Account No. 50-0426.

Respectfully submitted,

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Date: June 18, 2008

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1406/146/2 REJ/BJA/sla

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